RIJEČ GLAVNOGA UREDNIKA

DANI ŠUMA, SVJETSKI DAN VODA I SVJETSKI DAN METEOROLOGIJE

U specijalnom prilogu časopisa **Sensa magazin** za sretniji život, pod naslovom Koracima prirode, tiskan je popis važnijih datuma sa sadržajem zaštite okoliša. To nas je podsjetilo na veliko, ali zanemareno značenje šume u tri navedena ožujska datuma koji slijede jedan iza drugoga: 21. 3. Dan šuma, 22. 3. Svjetski dan voda i 23. 3. Svjetski dan meteorologije. U prilogu se sa dosta pesimizma govori o budućnosti našega planeta, koji je svake godine bogatiji za 78 milijuna ljudi. Upozorava se na povećani natalitet i u skoroj budućnosti o vjerojatnoj nestašici hrane, vode i energije za više od trećine ljudske populacije.

Onaj koji je poredao tri navedena područja koja treba naglasiti i posebno obilježiti u svezi zaštite okoliša, predložio je logičan slijed onoga što bi trebalo zgusnuto u tri dana raspraviti i upozoriti na ovisnost jedno o drugom. Prema brojnim prognozama pitka voda bit će u svijetu sve više tražena, i zasigurno je velika sreća što smo četvrta zemlja u Europi po njezinu bogatstvu. Upravo to njezino bogatstvo usko je povezano uz naše prirodne državne šume, kojih je u Hrvatskoj oko 80 %. Bogati smo i rijekama s gotovo prirodnim tokom, a regulacijom velikih poplavnih prostora Lonjskoga i Mokroga polja, osigurali smo Zagreb i nizvodno smještene gradove, naselja i poljodjelstvo od poplava Save, Kupe i njihovih pritoka. Istovremeno, osnovali smo Park prirode Lonjsko polje s oko 30.000 ha nizinskih šuma i oko 20.000 ha pašnjačkih površina, po bogatstvu biljnoga i životinjskoga svijeta jedinstvenoga u Europi.

Svojom strukturom i bogatim živim šumskim tlom, mehanički i biološki te djelomično kemijski, pročisti se oborinska i u nizinama poplavna voda, koja pitka ulazi u podzemne tokove, opskrbljujući izvorišta. Sve naše rijeke koje izviru u hrvatskim Dinaridima pitke su na svojim izvorištima, što *eo ipso* predstavlja golem potencijal pitke vode. Dodamo li tome sve njihove potoke i šumske izvore, to predstavlja golemu, praktički neprocjenjivu vrijednost koju smo do danas sve prije nego li iskoristili. Tome, dakako treba dodati već spomenuti crnomorski sljev koji obogaćuju vodotoci kopnenoga dijela Hrvatske. Prema Mitscherlichu iz Otto 1994, od sveukupne količine vode koja oborinama padne na šumu, dio se procjeđuje i obogaćuje podzemne tokove pitkom vodom. To iznosi tijekom vegetacije 30 do 40 %, a za mirovanja vegetacije 70 do 80 %.

Uzevši prosječno 1200 mm oborina u Hrvatskoj, 2 milijuna ha sklopljenih šuma pročisti godišnje teoretski oko 13 milijardi tona pitke vode, a koliko ćemo je mi iskoristiti ovisi o potrebama i dobrim tehnologijama.

Znalac koji je poredao dane obilježavanja: šuma, voda, meteorologija, zasigurno je mislio na ovisnost šume o vodi i na utjecaj jedne i druge na promjenu klime i obratno. Tu se ponovno pojavljuje šuma koja usporava učinak staklenika atmosfere kroz svoju općekorisnu funkciju vezivanja ugljika. Kod naših prirodnih šuma to je zasigurno učinkovitije nego li kod europskih smrekovih monokultura.

Osim stvaranja pitke vode, šuma ima još jednu vrlo značajnu ulogu u zaustavljanju i ublažavanju visokih vodnih valova. Padne li u jednom mahu 100 mm oborina, šuma će to uspješno zadržati. Ona ima značajan utjecaj i do 150 mm, dok preko te količine oborina šuma više nema značajnijega učinka.

Šuma, voda i meteorologija nisu bez određene namjere stavljene zajedno, pa zato predlažemo, kako bi ta tri obilježja svake godine organizirala druga ustanova u smislu znanstvenoga simpozija, uz hrvatsku i međunarodnu suradnju. Predlažemo, da slijedeće 2011. godine simpozij organizira šumarstvo, 2012. vodoprivreda, a 2013. Republički hidrometeorološki zavod.

Vrijeme je da se međusobno u širokim državnim okvirima raspravi i o navodnjavanju njiva zbog proizvodnje čiste ekološke hrane, koja će zasigurno imati dobru prođu u Europi. Za navodnjavanje ne bi smjeli koristiti onečišćenu savsku i dunavsku vodu, nego čistu iz akumulacija na Psunju, Papuku i Dilju, gravitacijom cijevima do njiva.

Prof. em. dr. sc. Branimir Prpić

A WORD FROM THE EDITOR-IN-CHIEF

FOREST DAY, WORLD WATER DAY AND WORLD METEOROLOGICAL DAY

Several important dates related to environment protection were listed in an article entitled In Step with Nature, a special supplement to **Sensa,** the magazine for a happier life. This reminded us of the great, but often overlooked importance of forests, which is marked on three March dates: Forest Day on March 3, World Water Day on March 22, and World Meteorological Day on March 23. The supplement gives a pessimistic outlook on the future of our planet, which is richer by 78 million people every year. It warns of the increasing natality rate and the impending lack of food, water and energy for over one third of the human population.

The authority that highlighted and marked the three areas of environment protection mentioned above also proposed a logical sequence of subjects to be discussed on these three days, as well as pointed to their interdependence. According to a number of predictions, drinking water will become one of the most desired commodities in the future. We are very lucky to be the fourth richest country in Europe in terms of water. The large supply of water is closely connected with natural state forests, which account for about 80% of all forests in Croatia. We also abound in rivers with almost natural flows. The regulation of large floodplain areas of Lonjsko Polje and Mokro Polje has ensured protection against floods for the City of Zagreb and the towns, villages and households situated downstream of the rivers Sava, Kupa and their tributaries. We have also established the Nature Park of Lonjsko Polje with about 30,000 ha of lowland forests and about 20,000 ha of pastureland. The diverse plant and animal world makes this area unique in Europe.

The structure and the rich, live forest soil function as mechanical, biological and partly chemical purifiers of precipitation water and of flood water in lowland areas. Thus purified, the water enters underground flows and supplies water sources. All Croatian rivers that spring in the Croatian Dinaric range are drinkable at their source, which *eo ipso* represents huge potential of drinking water. With the addition of all their streams and forest sources, this is an immeasurable, practically priceless value which we have so far done almost nothing to put to good use. The Black Sea watershed, enriched by the water flows of the continental part of Croatia, is an additional bonus. According to Mitscherlich from Otto 1994, of the overall amount of water that reaches the forest through precipitation, one part filters through the soil and supplies underground flows with drinking water. During the vegetation period, this accounts for 30 to 40 % and during the dormant period for 70 to 80 % of the amount.

Taking an average of 1,200 mm of precipitation in Croatia, the 2 million ha of fully canopied forests theoretically purify about 13 billion tons of drinking water annually. How much of this amount we will use depends on our needs and on good technologies.

The connoisseur who listed the days of forests, water and meteorology in this order must have had in mind the dependence of forests on water and the influence of both on climate change and vice versa. The role of the forest, which mitigates the glasshouse effect in the atmosphere through its function of carbon sequestration, comes to its full effect here. This effect is certainly more pronounced in Croatian natural forests than in European spruce monocultures.

In addition to ensuring drinking water, the forest also stops and mitigates high water waves. A forest will successfully intercept as much as 100 mm of precipitation fallen on a single occasion. The forest will still exert its effect up to150 mm, but not over this amount.

There is a deeper intention in putting together forests, water and meteorology. We propose that the Forest Day, the World Water Day and the Meteorological Day be marked by a different institution every year in the form of a scientific symposium with Croatian and foreign cooperation. We propose that the symposium for the year 2011 is organized by forestry, for the year 2012 by Water Management, and for the year 2013 by the State Hydro-Meteorological Office.

The time has come for holding a discussion within a broader state framework concerning irrigation of agricultural land for the purpose of producing pure ecological food. Such food will certainly find its buyers on the European market. Water for irrigation should not be taken from the polluted rivers of Sava and Danube, but should be pumped from water retentions on Psunj, Papuk and Dilj and brought to the fields by pipes using the force of gravity.

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